

REMARKS

Applicant's originally filed patent application was drawn to a copper alloy as embodied in applicant's claims 1 through 11 and a method for the manufacture of the copper alloy as embodied in applicant's claims 12 through 20. The Examiner requested restriction between claims 1-11 drawn to a copper alloy and classified in Class 420, Subclass 472+ and claims 12-20 drawn to a method for the manufacture of a copper alloy and classified in Class 148, Subclass 682+.

During a telephone interview on December 6, 2001, Applicant's attorney elected to prosecute the claims of Group I, drawn to the copper alloy and embodied in claims 1-11 with traverse. Applicant's reaffirm the election of the claims of Group I, claims 1-11, and newly added claims 21-24, and traverse the restriction requirement as follows:

A feature of independent claims 1 and 10, as amended, is that the alloys have high resistance to stress relaxation with at least 70% of an imposed stress remaining after exposure to 150°C for 3000 hours. As noted in applicant's specification at page 11, lines 6-7 a high stress remaining is a valuable attribute for spring contact applications. As further noted in applicant's specification at page 11, lines 11-18, resistance to stress relaxation is enhanced by a relief anneal when the material is at final gauge. The independent process claim, claim 12, includes as step (f) a relief anneal. Therefore, the alloys of independent claims 1 and 10 which have a high resistance to stress relaxation are best formed by the process of claim 11 which includes as a final step a relief anneal. Because the product, alloy, and the process, final step relief anneal, are so intertwined, the Examiner may properly consider both the product and process claims at the same time. It is respectfully requested that the Examiner remove the restriction requirement and consider all pending claims on their merits.

In the event that the Examiner repeats the restriction requirement and makes it final, applicants reaffirm the election of claim 1-11 and new claims 21-24 drawn to a copper alloy.

The Examiner objected to claim 11 under 37 C.F.R. 1.75(c) as being of improper dependent form noting that product claim 11 was depending from process claim 19. The dependency of claim 11 has been changed from claim 19 to claim 10 rendering the objection under 37 C.F.R. 1.75(c) as moot.

Claims 1-3 and 11 were rejected under the judicially created doctrine of obviousness type double patenting as unpatentable over claims 1-12 of U.S. Patent No.

5,853,505 to Brauer et al. Claims 1-11 were rejected under the judicially created doctrine of obviousness type double patenting as unpatentable over claims 1-12 of U.S. Patent No. 6,132,528. The Examiner noted that while the claims were not identical, they were not patentably distinct because alloy compositions overlapped. The 5,853,505 Patent is drawn to an iron modified tin brass. The claims require a minimum of 8% by weight zinc. The 6,132,528 patent is drawn to an iron modified tin brass. The claims 1-12 require a minimum of 9% zinc.

Applicant's claims 1 and 10 as amended recite that the claimed alloys contain less than 0.2% of zinc in conformance with applicant's specification at page 6, lines 10-13. Since the claimed compositions do not overlap, it is believed that the non-statutory double patenting rejection has been rendered moot and terminal disclaimers are not required. In the event that the Examiner repeats the request for a terminal disclaimer, applicants will agree to duly submit a terminal disclaimer at that time.

Claims 1-11 were rejected under 35 U.S.C. 103 as unpatentable over U.S. Patent No. 6,132,528 to Brauer et al. The Brauer patent is drawn to an iron modified tin brass. It is noted in the Brauer patent at column 5, lines 53-59 that the zinc enhances the grain refining capability of an iron addition. Further, a minimum of 5% of zinc is required to achieve this effect. Applicant's claims 1 and 10, as amended, recite less than 0.2% of zinc. Since Patent No. 6,132,528 recites a minimum of 5% zinc and applicant's alloys are drawn to alloys containing less than 0.2% zinc, there is nothing in the 6,132,528 patent to teach or suggest applicant's alloys. Applicant's claims should be allowed over the cited reference.

Claims 1-11 were rejected under 35 U.S.C. 103 as unpatentable over JP 11-264037. The reference is drawn to a copper alloy foil intended for high flex applications having a relatively high electrical conductivity. Nickel may be added as an optional addition. None of the examples cited in Table 1 include nickel as an optional addition. There is nothing in the reference to teach or suggest the beneficial effect of nickel over other additions, including cobalt, for enhancement of stress relaxation. In JP 11-264037 cobalt is disclosed as equivalent to nickel. Note applicant's Table 3 on page 10 of the patent application in which cobalt containing C195 is compared to the nickel-containing alloys of the invention and a significant increase in resistance to stress relaxation is achieved with the alloys of the invention. Since the JP 11-264037 foil is intended for use in printed circuit boards, it is not believed that resistance to stress

relaxation would be an important consideration. Accordingly, there is nothing in the reference to teach or suggest how to achieve a copper base alloy having enhanced resistance to stress relaxation by the inclusion of nickel, in contrast to an inclusion of cobalt or other elements. Applicant's claims, as amended, should be allowed over the cited reference.

With reference to new claims 21-24, JP 11-264037 discloses a process in which the final step as disclosed in Section [0017] at page 12 is cold rolling. There is nothing in the reference to teach or suggest a copper alloy or an electrical connector having a relief anneal temper. Applicant's claims 21-24 should be allowed over the cited reference.

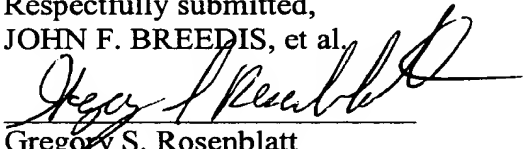
Claims 1-11 were rejected under 35 U.S.C. 103 as unpatentable over JP 06-299,275. The reference is drawn to a copper alloy containing a minimum of 3.2% of zinc. As noted above, applicant's claims as amended recite a copper alloy with a maximum zinc content of 0.2%. There is nothing in JP 06-299275 to teach or suggest applicant's claimed alloys and applicant's claims should be allowed over the cited reference.

Applicant's claims 1-11 were rejected under 35 U.S.C. 103 as unpatentable over JP 61-266,540 in the Abstract and Table 1 on page 2. The reference discloses a copper alloy containing iron, nickel, phosphorous and tin in amounts that overlap applicant's claims. There is nothing in the Abstract or in Table 1 to teach or suggest the alloy being in the relief annealed temper to enhance resistance to stress relaxation. Applicant's claims should be allowed over the cited reference.

Entry of this amendment and reconsideration of the claims as amended is respectfully requested. If the Examiner believes that an additional amendment is required to place the claims in condition for allowance, he is invited to contact applicant's attorney at the telephone number listed below.

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Respectfully submitted,  
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